

SYSTEMATIC ERRORS IN CURRENT EXTRAGALACTIC RADIO SOURCE CATALOGS

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Analyses of radio interferometric data acquired during the past 15 years is yielding coordinates of several hundred extragalactic sources with formal uncertainties considerably better than 1 milliarcsecond. The data originate in the VLBI observing programs of the Goddard Space Flight Center (Crustal Dynamics Project, CDP), the Jet Propulsion Laboratory (Deep Space Network, DSN), the National Geodetic Survey (International Radio Interferometric Surveying, IRIS), and the U.S. Naval Observatory. Comparisons of source coordinates derived from various subnetworks serve to establish the level of systematic errors. In particular, the CDP-DSN comparison indicates that the true source coordinate errors for over 200 sources are approximately 0.3 mas, somewhat larger than the formal statistical uncertainties. These results are of importance in establishing and assessing the accuracy of a conventional barycentric celestial reference system.